NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

THE EFFECTS OF THE U.S. FOREIGN MILITARY SALES (FMS) PROGRAM IN PRESERVING THE DEFENSE INDUSTRIAL BASE

by

Wayne M. Herbert

December 1998

Principal Advisor: Jeffrey R. Cuskey
Associate Advisor: Mark E. Nissen

Approved for public release; distribution is unlimited.

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	December 1998	Master's Thesis

4. TITLE AND SUBTITLE
The Effects of the U.S. Foreign Military Sales (FMS) Program in Preserving the Defense Industrial Base

5. FUNDING NUMBERS

6. AUTHOR(S)
Wayne M. Herbert

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Naval Postgraduate School
Monterey, CA 93943-5000

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES
The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT *(maximum 200 words)*

The objective of this research is to investigate the impact that Foreign Military Sales (FMS) policy can have on the preservation of the Defense Industrial Base. A survey is utilized to gather information from five of the top ten defense contractors. This study concludes that FMS policy will continue to be shaped by U.S. foreign policy. The study identifies how the defense industry has been affected by recent drawdowns and it describes arms transfers as an instrument of foreign policy based on United States national security interests. Additionally, offset agreements are analyzed as a contributory factor to the globalization of the arms industry. The study also identifies strategies the Government and the defense industry should use to facilitate the preservation of the Defense Industrial Base. The study recommends the Government review, streamline and liberalize arms transfer procedures. The Government can maintain the Defense Industrial Base by actively and aggressively supporting industry in the arms transfer process.

14. SUBJECT TERMS
Foreign Military Sales, Downsizing, Security Assistance, Offset Agreements, Defense Industrial Base

15. NUMBER OF PAGES
103

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFI- CATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 39-18

Approved for public release; distribution is unlimited

THE EFFECTS OF THE U.S. FOREIGN MILITARY SALES (FMS) PROGRAM IN PRESERVING THE DEFENSE INDUSTRIAL BASE

Wayne M. Herbert
Captain, United States Marine Corps
B.A., Loyola University, 1991

Submitted in partial fulfillment of the
Requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1998

Author: _____
Wayne M. Herbert

Approved by: _____
Jeffrey R. Cuskey, Principal Advisor

_____
Mark E. Nissen, Associate Advisor

_____
Reuben T. Harris, Chairman
Department of Systems Management

ABSTRACT

The objective of this research is to investigate the impact that Foreign Military Sales (FMS) policy can have on the preservation of the Defense Industrial Base. A survey is utilized to gather information from five of the top ten defense contractors. This study concludes that FMS policy will continue to be shaped by U.S. foreign policy. The study identifies how the defense industry has been affected by recent drawdowns and it describes arms transfers as an instrument of foreign policy based on United States national security interests. Additionally, offset agreements are analyzed as a contributory factor to the globalization of the arms industry. The study also identifies strategies the Government and the defense industry should use to facilitate the preservation of the Defense Industrial Base. The study recommends the Government review, streamline and liberalize arms transfer procedures. The Government can maintain the Defense Industrial Base by actively and aggressively supporting industry in the arms transfer process.

TABLE OF CONTENTS

I. INTRODUCTION

A. GENERAL

The purpose of this thesis is to examine the impact Foreign Military Sales (FMS) policy has on the preservation of the Defense Industrial Base. As United States (U.S.) defense spending continues its downward spiral, the Pentagon is unable to fully support its military industrial complex. Today, FMS helps maintain the U.S. industrial base capabilities and, in some cases, may be the only purchases that keep U.S. weapons production facilities operating. Many feel that this is acceptable since the critical skills in the U.S. Defense Industrial Base must be preserved; with reduced defense dollars, FMS is the answer.

B. BACKGROUND

Global arms competition continues to demand weapons with advanced technological capabilities. The defense industry continues to meet this competition as individual contractors fight for arms contracts and market share. In

the past 15 years we have seen a shift in how we supply our allies due to reductions in domestic purchases. Defense firms actively seek business abroad in order to remain competitive in the global defense market.

President Clinton's Conventional Arms Transfer Policy recognizes the importance of economic security by making it a policy goal to enhance the ability of the U.S. defense industrial base to meet U.S. defense requirements and maintain long-term military technological superiority at lower costs. The present policy offers few suggestions on how to accomplish this and it continues to stress a Cold-War security mentality.

The importance of preserving the defense industrial base cannot be overstated. Without the capability to surge and supply American fighting forces, the U.S. could find itself in a perilous position. FMS is one program that may help maintain the U.S. defense industrial base and our country's technological superiority. The future security of the U.S. will depend on the ability of the defense industrial base to maintain its technological lead and production capacity. At present, the U.S. Government is doing little to help preserve that base.

C. THESIS OBJECTIVES

The objective of this research is to determine the effect current FMS policy has on the preservation of the defense industrial base. It discusses three areas in detail. First, it addresses the emergence of the U.S. as the world leader in arms exports and recommends that the U.S. Government maintain the defense industrial base by aggressively supporting the U.S. defense industry in the arms transfer process. With the end of the Cold War and the continuing drawdown of U.S. military forces and equipment, the defense industrial base is deteriorating. The Government must balance the current arms transfer decision making process with the welfare of the shrinking defense industry.

Second, the impact of offsets are examined as they relate to employment, trade and globalization. The implications of offset agreements are discussed in the areas of defense preparedness, foreign dependence and technology transfer.

Lastly, the concerns and recommendations of major U.S. defense industries are presented to outline their current positions in relation to FMS and the importance of FMS to their survival.

D. RESEARCH QUESTIONS

1. Primary

Does current FMS policy hinder or facilitate the preservation of the United States defense industrial base?

2. Secondary

- What is the purpose of FMS?
- What current policies guide the conduct of FMS?
- What has been the impact of post-Cold War U.S. drawdowns and changes in overall military strategy as it affects the defense industrial base?
- What are the roles of offsets in FMS and how do offsets facilitate the preservation of the defense industrial base?
- What are the current Government and industry concerns about FMS Policies as they relate to the defense industrial base?

E. METHODOLOGY

The methodology for research includes literature reviews and survey data from major defense firms (contract managers). It reviews previous studies that have documented the impact of FMS on the defense industrial base.

The survey asks major defense firms how current FMS policy supports their preservation and requests input concerning future related policy. The analysis attempts to gather and present data showing how crucial FMS has become for the U.S. defense industrial base.

Various documents and reports are reviewed in order to discuss the purpose of FMS and what impact current policy has in guiding the conduct of FMS cases. The recent U.S. defense drawdowns are analyzed and the role of offsets is discussed as they relate to the preservation of the defense industrial base. The surveys, along with a thorough analysis, identify key problems and recommendations for future policy as it relates to the preservation of the U.S. defense industrial base.

F. ORGANIZATION

Chapter II follows this introduction and establishes the background of security assistance as an element of foreign policy by examining its use by the U.S. from World War II to the present. It looks at four periods that demonstrate how U.S arms transfer policy has a regional focus. This chapter also examines the decision making process the President, the Department of State (DOS), the

Department of Defense (DOD), and other Government agencies use in controlling arms transfers. The impact of post-Cold War drawdowns on the defense industry is also discussed.

Chapter III provides information on offset agreements and explains the different types of direct and indirect offset agreements. The impact of offsets on employment, trade and industrial competitiveness is discussed. The attitude within Government and the U.S. defense industry concerning offsets is also addressed.

Chapter IV analyzes how the Government can preserve the defense industrial base. It synopsizes the applicable findings from major defense industries and examines current policy implemented by the Clinton Administration.

Chapter V discusses the conclusions that can be made based on the analysis and provides recommendations for future FMS and arms transfer policies.

II. FOREIGN MILITARY SALES OVERVIEW

> In the conduct of foreign relations, the United States, like every other state, is concerned primarily with the achievement of those objectives of national interest which it conceives to be of paramount significance. If the management of our external affairs is to enjoy rationality, it must have goals that harmonize with, and supplement, the internal policies and programs of the Government, whether they may be the promotion of commerce and trade, the acquisition of territory power, or the maintenance of peace and security.
>
> President Truman

These were the words spoken by President Truman during his 1949 inaugural speech and for the first time in U.S. history, an inaugural address devoted to the topic of foreign policy. His address initiated the development of several programs which we collectively call Security Assistance [Ref 7: p. 1].

The Security Assistance (SA) program is concerned with the transfer of military and economic assistance through the sale, grant, lease or loan to friendly foreign governments. The program is designed to enhance foreign policy objectives by contributing to national security through the concept of "collective security". Goals of the (SA) program include:

- enhancing cooperative defense and security efforts
- deterring and combating aggression

- promoting regional stability
- promoting key interests through FMS cash sales and commercial military exports
- promoting democratic values

There are seven major components of the SA program.

- Foreign Military Sales and Foreign Military Construction Sales Program
- Foreign Military Financing Program
- Commercial Sales licensed under the Arms Export Control Act (AECA)
- Military Assistance Program (MAP)
- International Military Education and Training (IMET) Program
- Economic Support Fund
- Peacekeeping Operations (PKO)

This paper deals exclusively with FMS. FMS activities are legislated by the Foreign Assistance Act of 1961 and the Arms Export Control Act of 1976. [Ref 8] The Truman Doctrine serves as the cornerstone for the development of the Foreign Assistance Act which provides the legal authority to provide goods and services to foreign governments which support U.S. national security objectives. [Ref 7: pp. 36-41]

A. FMS HISTORICAL PERSPECTIVE

Exporting U.S. military hardware to foreign governments is nothing new. President Franklin D. Roosevelt first offered U.S. military equipment to Britain through his "Destroyers for Bases Deal" in September 1940. Later that year he made provisions in his "Arsenal of Democracy" speech where the U.S. would furnish its allies with necessary supplies to include machinery and military equipment. This proposal became the cornerstone of Roosevelt's Lend-Lease Act. The Lend-Lease Act was authorized by Congress in 1941. It empowered the president to sell, lease or transfer such material under whatever terms the president deemed necessary and proper. By the end of World War II almost all allies, to include the Russians, were recipients under this Act. Lend-Lease continued as a U.S. foreign policy tool through September 1946 providing for the investment of $50.6 billion during the five-year program. [Ref 5: pp. 489-490]

Today FMS as a foreign policy tool is not without its price. In 1993, Washington approved the shipment of $2.2 billion in "free" weapons and military supplies to some 50 countries. Many of these "give-aways" were to countries whose security interests are rooted in the Cold War or for participation in the Persian Gulf War. [Ref 6: p. 26] Section 516 of the Foreign Assistance Act authorizes the

grant transfer of lethal excess defense articles and services: 1) to those members of the North Atlantic Treaty Organization (NATO) on the southern flank of NATO, 2) to major non-NATO nations on the southern and southwestern flank of NATO, and 3) to those countries which contributed armed forces to deter Iraqi aggression in the Arabian Gulf. This section, as originally written, was intended to reinforce the weak southern flank of NATO in the early 1960's. Over the years, Section 516 has become a "catch-all" to reward countries for their favorable support of U.S. interests within a region. Other sections within the Foreign Assistance Act that grant U.S. military equipment to friendly nations include Section 517- The Transfer of Lethal Excess Defense Articles for the modernization of counter narcotics capabilities of certain countries, Section 518- The Transfer of Non-Lethal Excess Defense Articles for the Protection of Natural Resources and Wildlife Management, and Section 519- The Transfer of Non-Lethal Excess Defense Articles to help modernize the defense capabilities of friendly countries. [Ref 12:pp 198-204] The total expenditures in 1997 for Department of Defense (DOD) FMS is depicted in Table 1.

TABLE 1: DOD FOREIGN MILITARY SALES

DOD Foreign Military Sales 1997

Rank	Parent Company	Amount	Mkt Share
1	McDonnell Doug. Corp.	$5,532,029	41.92
2	Lockheed Martin	$2,450,661	18.57
3	General Motors	$946,217	7.17
4	United Technologies	$663,571	5.03
5	Raytheon Co.	$457,502	3.47
6	Boeing Co.	$401,411	3.04
7	FMC Corp.	$192,946	1.46
8	General Ele. Co.	$172,344	1.31
9	Northrop Grumman Corp.	$141,985	1.08
10	General Dynamics Corp.	$133,888	1.01
11	Canadian Comm. Corp.	$124,567	.94
12	Science Appl. Intl.	$102,843	.78
13	BDM Corp.	$89,370	.68
14	Salomon Inc.	$65,976	.5
15	Vector Microwave	$65,545	.5

***Rankings are based on prime contracts of $25,000 or more R&D, services and products sold to non-U.S. governments.*

(Source: Government Executive, September 1997)

B. ARMS TRANSFERS SINCE 1945

1. NATO Rearmament, 1945-1960

Aid during the onset of the Cold War began with Greece and Turkey in 1946 and in Western Europe in 1948. [Ref 10: p. 4] The Mutual Defense Assistance Program had been authorized by Congress and intended to accomplish arms transfers on a grant basis for the NATO allies of the U.S. The goal of this program was to strengthen NATO military forces without requiring NATO countries to delay or abandon economic recovery efforts that had been established under the Marshal Plan.

This program was in line with the Joint Strategic Operations Plan (JSOP), a policy used extensively in the 1950's and 1960's. The JSOP outlined planning documents that related military requirements to capabilities. It described the military threat as the "Soviet Bloc" and listed the capabilities of the U.S. and NATO allies to meet that threat. The document also listed what each country could do when it received U.S. arms in order to augment U.S. forces in theater. Essentially, the JSOP justified the transfer of arms to NATO allies so that both NATO and the U.S. would be able to meet a Soviet conventional threat.

The method of deciding who received arms sales, and

what equipment and services they should get, continued to be the focus of the Truman, Eisenhower, and Kennedy Administrations. Beginning in 1950, the DOD began tracking arms sales and deliveries on a fiscal basis. Those data are now available and updated by the Defense Security Assistance Agency (DSAA). [Ref 10: pp. 4-5]

2. Vietnam Era, 1960-1973

The Vietnam era occurred during the Kennedy, Johnson, and Nixon Administrations. During this period the security assistance community developed two separate programs, the Military Assistance Services Fund (MASF) and the Excess Military Assistance Service Fund (EXMASF), to specifically handle the Vietnam War. Although other security assistance programs were implemented, these two programs rapidly developed in order to quickly transfer arms to those nations involved in Vietnam. Between FY 1965 and FY 1975, the countries of Korea, Laos, Philippines, Thailand and Vietnam received equipment and services valued at more than $18 billion. U.S. interests were highly focused on this region of the world. The containment of Communism was still at the forefront of strategic thought. Though Europe was still receiving arms transfers to keep NATO strong, East Asia and the Pacific region became more significant to both military and political leaders. [Ref 10: pp. 6-7]

3. The Middle East Era, 1973-1989

The Near East and Southern Asia did not receive equipment or services in the form of security assistance until the 1973 Arab/Israeli war. Deliveries were below $500 million From FY 1966 to FY 1970 but rapidly increased by 1974. From FY 1974 to FY 1980 FMS deliveries ranged between $2 billion and $5 billion. A unique feature of this period was the inception of commercial sales as a part of security assistance. Until 1970, arms transferred from the U.S. were only in the form of government-to-government sales or grants. In FY 1971, however, U.S. commercial firms applied for and acquired the necessary licenses to negotiate directly with defense industries or ministries of other countries. In the first five years of this program commercial sales ranged between $500 and $900 million. Another unique feature of this period was the relationship developed by the U.S. and Israel. Although FMS was the primary vehicle for most transfers to the Near East, one of the largest recipients of U.S. military equipment and services, Israel, also received over $16 billion in foreign military financing (FMF) waivers, finance guarantees or direct waivers. These "special programs" for Israel are tied to foreign policy interests of the U.S. in that region and continue today. [Ref 10: pp. 8-10]

4. Post Cold-War Period, 1989-1992

This period reflects the uncertainty of the post Cold-War world. The U.S. continued to transition from a bipolar-focused foreign policy to a more flexible one based on regional stability and U.S. values. In the name of controlling Soviet expansionism, the U.S. was able to negotiate arms transfers to any country it desired. At the end of the Cold War, the U.S. developed a two Major Regional Conflict (MRC) strategy in order to focus both foreign and military policy. [Ref 10:pp. 10-11] President Clinton's National Security Strategy would now focus on the perceived threats of North Korea, Iran and Iraq.

C. FUTURE FMS GUIDANCE

In early 1994, the Clinton Administration submitted to Congress a draft bill intended to replace the Foreign Assistance Act cited as H.R. 3765 "The Peace, Prosperity and Democracy Act of 1994". The overriding theme of this legislation is the promotion of democracy in Eastern Europe and the former Soviet Union through our national strategy of enlargement. This document was meant to incorporate the changes that were seen in the world and provide the framework for future assistance to the former Warsaw Pact countries. The importance of alliances and coalitions

remains evident given the language in Sections 3301 and 3302 of the bill:

> In order to stem incipient regional conflicts worldwide, the United States sees great value in maintaining alliances, coalitions and other cooperative defense relationships that permit more effective collective defense efforts. The United States will provide assistance to enhance the ability of countries world wide willing to share the burden of contributing to regional alliances, coalition operations, and other collective security efforts to counter threats to and maintain international peace and security.
>
> -The Peace, Prosperity, and Democracy Act of 1994, Sections 3301 and 3302

As of October 1994, this bill was stalled within the Senate Foreign Relations Committee and the House Foreign Affairs Committee. As an interim measure, Congress rushed through an amendment in November of 1994 which was entitled "The NATO Participation Act of 1994". This document was intended to assist in the transition to full NATO membership the countries of Poland, Hungary, the Czech Republic and Slovakia. [Ref 8:pp. 1-3]

The White House did release on February 17, 1995, the new United States Government Conventional Arms Transfer Policy. This policy outlines the following goals for future arms sales: first, to ensure that our military forces can continue to enjoy technological advantages over potential

adversaries; second, to help allies deter or defend themselves against aggression; third, to promote regional stability in areas critical to U.S. interests, while preventing the proliferation of weapons of mass destruction and their missile delivery systems; fourth, to promote peaceful conflict resolution and arms control, human rights, democratization and other U.S. foreign policy objectives; and fifth, to enhance the ability of the U.S. defense industrial base to meet U.S. defense requirements and maintain long-term military technological superiority at lower costs. With regards to the last point, once an approval for transfer is made, the U.S. will take steps in tasking our overseas personnel (security assistance officers) to support overseas marketing efforts of American companies bidding on defense contracts. This policy also calls for actively involving senior Government officials in promoting sales of particular importance in the U.S. [Ref 30:pp. 54-56]

D. LABYRINTH OF CONTROL

> It is the sense of the Congress that the President should maintain adherence to a policy of restraint in conventional arms transfers. American policy is to encourage regional arms control and disarmament agreements and to discourage arms races.

-Arms Export Control Act of 1976, Section 1

Many fear that U.S. arms transfer policy lacks control and allows valuable military technologies to quickly end up in foreign hands. In reality, the control measures established by public law, presidential policy, congressional actions, and the U.S. military establishment might be more comprehensive than they appear and even can be excessive at times. There is a labyrinth of controls on conventional arms transfers.

In 1983, Dr. Michael D. Salomone published a book titled *The Reluctant Supplier*. In that book he describes six functions of arms sales decisionmaking that remain valid today. They are: (1) recognition of a recipient's needs and wants; (2) initial review of a government's request for information; (3) policy review of a purchase request; (4) negotiation and development of an agreement; (5) execution of an agreement; and (6) feedback and evaluation concerning the recipient's use of the assistance received. From the identification of the need or want to the actual delivery of a weapon system, an elaborate and complex arms transfer approval process exists within the Executive and Legislative branches of the Government. [Ref 21: p.85]

It is relevant to note that all public laws and policies guiding the arms transfer process were written during the Cold War. The Arms Export Control Act (AECA) of 1976 and the Foreign Assistance Act of 1961, as amended, allow the President to delegate the authority for arms transfer policy to the Department of State (DOS). In order to sell arms abroad, U.S. defense firms require a munitions license. This license can only be granted by the State Department. Under the AECA, U.S. firms and Military Services are prohibited from marketing U.S. arms to foreign governments or industries unless that government specifically requests information on a purchase. These laws all push for a "policy of restraint in arms transfers" and "encourage regional arms control while discouraging arms races." [Ref 21: pp.86-88]

Many individuals are involved in the six basic decisionmaking functions of security assistance. Together these personnel constitute a system the U.S. Government employs to manage this complex problem. It should be recognized that the system is dynamic and changes with each request depending on the equipment or service requested, which country is doing the requesting, and what level of political attention that request may or may not be getting. It is, however, a process that can be understood.

The principal U.S. field personnel in countries that make requests for information on the purchase of military equipment are ambassadors and their political counselors, defense attaches and security assistance officers. In addition, industries may send specialists to provide advice or temporary services. At the regional level, security assistance staffs at the Unified Commands monitor and support country security assistance teams.

Within the DOS, a number of officials are involved in arms transfers. The Secretary of State supervises and provides general direction over foreign assistance issues and determines if there will be a program and, if so, its size, scope, and when it can take place. The primary contacts within the DOS for arms transfer issues rests with the offices of the Assistant Secretary of State for Political-Military Affairs and the Under Secretary of State for International Security Affairs (ISA). [Ref 24:pp. 84-91]

The primary day-to-day agency that works on security assistance and arms transfers within the Political-Military Affairs branch are the Office of Defense Relations and Security Assistance, which approves and monitors all government-to-government sales, and the Office of Defense Trade Controls, which is responsible for granting U.S. industries munitions licenses before any transfer can be

approved. None of these agencies make decisions alone or in the dark; they frequently request specific studies and analysis from the many regional desks within the State Department. These regional bureaus may, in turn, request an opinion from their security assistance officer or ambassador within the requesting country.

The majority of "players" in the arms transfer arena are in DOD. Although DOD's role is as executor and implementor of State Department policy, that role is not insignificant. The Secretary of Defense sometimes meets with the President and the Secretary of State over security assistance matters. More immediate policy decisions are generally made by the Assistant Secretary of Defense for International Security Affairs (ISA). The ISA office is broken down into regional offices and desks which consider the political and military implications of proposed arms transfers.

The primary agency within DOD for directing and supervising the execution of security assistance programs is the Defense Security Assistance Agency (DSAA). The DSAA is the focal point for all communications within DOD regarding government-to-government arms transfers. Commercial sales are handled by the Office of Defense Trade Controls in the State Department. However, if a major weapon system is

requested through commercial channels, the DOS will ask for DOD advice in regards to the ramification of that sale. If a technology assessment is required, the Defense Technology Security Administration (DTSA) will make a determination of whether or not advanced technologies are being risked by the sale or transfer of that system. DTSA performs this for both commercial or government-to-government transfers.

The individual Services--Army, Navy, and Air Force--have their own security assistance divisions. The Army has the U.S. Army Security Assistance Command (USASAC), the Navy has its International Programs Office (IPO), and the Air Force has its International Affairs Directorate under the Secretary of the Air Force (SAF/IA). Each Security Assistance Division works within its own Service as the primary point of contact for certain weapon systems. For example, if a tank is requested for purchase, the USASAC will be asked to assess the ramifications of that sale. Missiles are under the auspices of the Navy, so the Navy IPO would become the lead agent to support or advise on that transfer. The request for information or purchase of an F-16 or F-15 would fall under the auspices of SAF/IA.

Although the DOD and DOS are the primary stakeholders in most arms transfers, there are many other agencies that may become involved. The Treasury Department, the Central

Intelligence Agency (CIA) and the Office of Management and Budget (OMB) are less directly involved, but can play an important role. The General Accounting Office (GAO) frequently reviews the process, as do the staffs of the House and Senate Armed Services Committees. In some politically sensitive cases, the President or the Congress may take a central role in the arms transfer process. [Ref 24: pp. 88-91]

E. IMPACT OF POST-COLD WAR DRAWDOWNS ON THE DEFENSE INDUSTRY

DOD has experienced a reduced world threat and a declining budget since a peak in the middle 1980's. This declining budget has had a tremendous affect on the ability of the Defense Department to maintain programs and enter into new procurements. The inability to produce new contracts, along with reduced dollars for existing programs has greatly influenced major defense firms.

Since its peak in the middle 1980's, DOD has been downsizing by end strength and dollars budgeted by Congress. Since fiscal year 1985, budget authority for national defense has been cut significantly. In 1991, for example, national defense budget authority was 20 percent below the

1985 peak after an adjustment for inflation. As a percent of GNP, national defense outlays over the next several years (FY 1993--FY 1998) will fall below the Vietnam drawdown percentages of the 1970's.

The defense cuts are forecast to be even greater in the future. Table 2 shows, in current year dollars, the projected budget for FY 1993 through FY 1998 in budget authority and outlays. The U.S. Government has decided to continue further reductions in our national defense. Current political statements transmitted via media seem to suggest that reductions beyond those currently identified by the Clinton Administration would be hazardous to the "military base force" (basic national defense with present manning levels). These arguments are continually debated in Congress and the outcome is uncertain. [Ref 20: pp. 5-11]

Also depicted in Table 2, it is evident that the level of defense funding available for new and existing contracts is decreasing. Major defense contractors are receiving fewer and fewer DOD contract dollars because of reduced funds, program cancellations and a reduced number of new procurements. Bottom-line: changes in funding are equal to changes in the defense industrial base. [Ref 26: pp.5-8]

TABLE 2: NATIONAL DEFENSE TOPLINE(CURRENT $ BILLIONS)

BUDGET AUTHORITY	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
DOD MILITARY	259.1	250.7	248.1	240.3	232.8	240.5
DOE & OTHER	13.9	12.7	13.0	13.4	13.2	13.4
TOTAL NATL DEFENSE	273.0	263.4	261.1	253.7	246.0	253.9
REAL CHANGE (%)	-8.5	-5.0	-3.0	-5.1	-5.0	0
OUTLAYS						
DOD MILITARY	277.3	264.2	258.0	251.6	233.7	239.2
DOE & OTHER	13.4	12.7	12.9	13.1	13.2	13.3
TOTAL NATL DEFENSE	290.7	276.9	270.9	264.7	246.9	252.5
REAL CHANGE (%)	-5.6	-6.6	-4.3	-4.5	-8.9	0

(SOURCE: FY 1994 DEFENSE BUDGET BEGINS NEW ERA, MARCH 27, 1993.)

F. SUMMARY

This chapter indicates that U.S arms transfers are used as an instrument of foreign policy based on U.S. security interests. These interests are decided upon by the presidents and their administrations as they react to the foreign policy changes of the day.

This chapter also provides an appreciation for the amount of control present in the arms transfer decisionmaking process. As decisions weave their way through the many stakeholders in the DOS, DOD and other Governmental agencies, it is like a labyrinth of control. This labyrinth of controls is more than adequate to prevent unwanted diffusion of military technologies.

Lastly, this chapter provides the reader with an understanding of the size, extent, and timeframe of the defense downsizing. As downsizing continues, Congress must keep the pressure on to maintain major defense industry contracting goals. The following chapter addresses the possibility of loosening these controls in order to instigate more foreign military sales. Additional FMS may have the potential to "offset" the U.S. defense budget and favorably impact the U.S. Defense Industrial Base.

III. POLITICAL & ECONOMIC IMPACT OF OFFSETS

Chapter III defines and provides examples of offset agreements and discusses how offset agreements of the past have contributed to the globalization of the U.S. arms industry.

A. OVERVIEW OF OFFSETS

The term *offset* lacks a uniform definition and different terms are used by Government agencies and business entities to describe the concept. This research thesis uses the term *offsets* to refer to trade arrangements. These trade arrangements include a myriad of compensation practices required by a foreign purchasing government as a condition attached to the sale of defense articles or services. The intent of these arrangements is to decrease the impact of expensive weapon systems on the buyer's balance of payments and to provide the buyer with other advantages. These other advantages often take the shape of increased employment, expansion of their industrial base or the enhancement of technology transfer. [Ref 19:pp. 185-187]

Arms sales offsets come in two forms. A **direct offset** involves the transfer of military technology, usually by granting a license to the receiving country to manufacture a U.S. weapon system, its components or subcomponents. An **indirect offset** would involve counter-importing some random product into the arms selling country or transferring commercial technology; it is not directly military related.

A good example of a direct offset is seen in the $5.2 billion Korean Fighter Program (KFP) deal in 1991. South Korea purchased twelve F-16C/D fighters from General Dynamics (subsequently purchased by Lockheed), as well as 36 aircraft "kits" to be assembled in Korea. South Korea, however, desired to produce an indigenous fighter aircraft and held out for the right to manufacture an additional 72 F-16s under license. It was later proven that Korean Air Lines and Daewoo Heavy Industries had already produced some F-16 parts and Samsung Aerospace had produced parts for the F/A-18 strike fighter. This manufacturing capability was later learned to be "nothing" compared to the level of manufacturing and production line management contemplated under the KFP. According to the General Accounting Office (GAO), on top of the transfer of manufacturing and assembly know-how, Korea received approximately 30% of the contract

value, more than $1.5 billion, in undisclosed indirect offsets. [Ref 18:pp. 1-3]

The 1982 $1.8 billion sale of F/A-18 strike fighters to Spain exemplifies an indirect offset. As a part of this agreement, McDonnell Douglas Corporation offered $1.5 billion in "assistance" (offsets). The aerospace company agreed to market a wide range of Spanish products in the United States to include steel coils, chemicals, sunflower seed oil, sailboats, paper products, zinc and marble. The corporation helped publish and distribute a picture book on Spanish lifestyles designed to promote U.S. tourism in Spain. In addition, McDonnell Douglas helped establish a Domino's Pizza franchise in Barcelona. [Ref 18:pp 1-2]

Since 1985, almost all FMS weapons sales have involved economic offsets of some kind to the purchasing entity. The decision whether to engage in offsets and the responsibility for negotiating and implementing offset arrangements resides with the defense firm involved. The U.S. Government is restricted under the 1989 National Defense Authorization Act from *encouraging* foreign nations not to demand offsets as part of an arms contract.

Even though the terms of an offset agreement on individual contracts may vary, they can be grouped into one of the following types:

- **Coproduction** has been a major area of increase since the mid-1980's. Coproduction involves a joint manufacturing venture between a U.S. defense company and the participating foreign country. Under coproduction, participating nations are authorized to produce portions of the product, but are not entitled to have access to critical manufacturing processes or technologies. The F-16 fighter represents the largest coproduction activity in this century and includes the four Western European countries of Belgium, Denmark, Norway and the Netherlands. Coproduction can lock foreign governments into business arrangements for several decades, from "cradle to grave". This facet of coproduction provides three advantages for the U.S. defense companies. First, it bolsters other market sales as foreign governments have confidence in a product bought by many countries. Second, the years of defense interaction with participating governments establishes "diplomatic ties" that can assist in future sales and/or mutually beneficial arrangements. And finally, coproduction assists in establishing a secure business base by reducing company production costs with guaranteed revenues.

- **Codevelopment** entails cooperation from the concept evaluation phase through production and post-production support. It also creates cost and benefit-sharing throughout a weapon system's life-cycle. In codevelopment programs, governments or multinational corporate teams work together to jointly develop and manufacture weapon systems. Codevelopment methods of procurement are more prevalent in Europe than they are in the U.S., mainly due to the extended program length and management difficulties of the U.S. acquisition system. Today, with the increasing costs of Research and Development (R&D), many European countries prefer to participate in codevelopment ventures with the U.S. [Ref 1:pp 175-180]
- Two other categories of offsets include the requirement to **license produce** an item or the requirement for **technology transfer.** Licensed production involves overseas production of U.S. defense equipment based upon transfer of technical information under direct commercial arrangements between a U.S. manufacturer and a foreign government or producer. The requirement to license produce usually stems from the desire to be totally independent or the need to create jobs within your own country. License production is usually more expensive

than purchasing the final product from the manufacturer, but in some nations it is preferred because it provides both jobs and technology transfer. Technology transfer may take the form of R&D, technical assistance or other activities under a direct commercial arrangement between the U.S. manufacturer and foreign purchaser. [Ref 1:pp 185-187]

Industry finds it preferable to sell outright without obligations to share production, technology transfer or committing to purchase from a buyer. Research, however, has shown that U.S. contractors are willing to enter into offset arrangements because they are necessary to stay competitive. One Sikorsky spokesman put it simply by stating, "Sixty percent of something is better than 100% of nothing." [Ref 23:pp 64-67]

On the other hand, when you look at a buyer's position, offsets become very attractive. As previously discussed, offsets provide the buyer with production know how, increased employment and a way to reduce the impact of expensive weapons purchases. One drawback that a buyer must face, however, is that the per unit cost of a weapon system is usually higher with offsets than without them. Many countries today would rather coproduce than buy some defense items off the shelf.

B. OFFSETS AND GLOBILIZATION

Much of the globalization trend in the U.S. defense industry has occurred since the mid 1980's and has been due in part to the cooperation and offsets by the U.S. U.S. assistance to Europe following World War II has led to their emergence as a significant force within the arms market. With a common goal of defending against Soviet aggression and expansion, the U.S. emphasized the military advantage of cooperation and NATO. In DOD's view, by eliminating duplication and competition in the development, production and procurement of weapon systems, NATO would not only be more capable but more efficient, saving money while deploying a more effective fighting force. [Ref 28: pp. 1-5] This viewpoint is predicated on the fact that duplication and competition can be eliminated in Western Europe, since the U.S. is already producing American weapon systems for U.S. forces which represent the latest in military technology. The European members of NATO focus on the economic and political importance; Western Europe stresses the benefits of jobs, development of their R&D base, and export sales arising from arms production. [Ref 1: pp. 180-182]

This differing viewpoint was the impetus for increased offset requirements for U.S. systems not only among NATO members but also Canada, Japan and many countries in the Third World who desired to build their own Defense Industrial Base. The restructuring and associated industrial activity involved technology transfers, international subcontracting, licensed production, co-development and co-production of major weapon systems. The increase in offset arrangements in the mid to early 1980's coincided with this globalization trend. (Table 3)

As previously discussed, the catalyst that initiated the increase in cooperation between allies and friendly nations was the emergence of the Soviet Union following World War II and the NATO alliance that formed to deter the corresponding threat. Increasingly, NATO countries invest in their own indigenous arms production capabilities; however, rationalization, standardization and interoperability (RSI) requirements between their systems and their allies' systems increased the number of cooperative programs. Ironically, it was the fall of the Soviet Union and the dissolution of the Warsaw Pact that provided the next push towards the global economic integration of the arms market.

TABLE 3: OFFSET OBLIGATIONS UNDERTAKEN BY U.S. ARMS MANUFACTURERS DURING 1980-1987

Client State	Offsets as a % of Total Arms Sales
Australia	37.6
Belgium	86.4
Brazil	100.00
Canada	78.0
Denmark	41.2
Egypt	22.9
Germany	59.6
France	125.2
Greece	39.1
Indonesia	19.0
Israel	23.0
Italy	51.6
Luxembourg	100.00
Netherlands	62.4
New Zealand	5.6
Norway	72.0
Philippines	45.1
Portugal	16.7
Peoples Rep of China	29.8
Rep of Korea	46.2
Saudi Arabia	29.9
Spain	132.5 (Source: OMB 1994)

The end of the Cold War led many governments to make substantial reductions in defense spending. This, along with increasing research and development and production costs associated with future weapon systems, has caused fewer new weapon systems to be produced and existing systems to be procured in smaller numbers.

As U.S. defense industries are confronted with a shrinking defense market and excess production capacity, they are looking for FMS to counter lost revenue. DOD openly admits it cannot fully support the U.S. defense industrial base and exports are expected to comprise about 25 percent of the defense contractors' revenue in the future. [Ref 27: pp.1-2]

While no Government figures are available that account for the value of the associated offset agreements, past experience indicates that they are a necessity to conduct business. The sale of F-16s and Bradley Fighting Vehicles to Turkey in 1992 required Lockheed Martin to produce portions of these weapon systems in Turkey. [Ref 30: p. 21] To illustrate how offset agreements contribute to the globalization of the arms market, the following major sale of airborne warning and control system (AWACS) aircraft is discussed.

C. AWACS CASE STUDY

AWACS sales to Britain in early 1987 involved offsets of 130% of the sales contract value. Boeing served as the prime contractor in this case and offsets of this magnitude were a forerunner of others to come.

Boeing originally submitted a offset bid of 35% of the contract value when Britain initially opened the competition. This amount was increased to 100% in July 1986. In September of the same year Britain selected two of the seven bidders as semi-finalists: GEC Nimrod and Boeing AWACS. The firms were chosen as the semi-finalists because they both demonstrated the capabilities required and they met the risk, cost and timeliness evaluation criteria.

In late 1986, Boeing and its subcontractors (Westinghouse, GE and SNECMA) increased the offsets proposal to 130% of the contract value. Boeing had established participation agreements with three British avionics companies and these corporations openly supported AWACS over Nimrod. These "agreements" were vague, but they simply stated the intent to cooperate in any offsets that might result if AWACS was selected. The fact that three of Britain's largest aerospace firms favored AWACS played an important role in the final selection process.

In December of 1986, the Ministry of Defense announced the contract award to the Boeing AWACS. Many British firms protested the result, especially GEC. They claimed that they would lose over 2,500 prime and subcontractor jobs plus the future export market for airborne early warning systems. The British Minister of Defense promptly defended the AWACS award and claimed that gains for other firms would equal or exceed losses by GEC. The British Government repeatedly claimed that the decision was based solely on the proven capabilities of AWACS and how it met their defense requirements. The total costs of AWACS would be $12 billion for seven aircraft plus an option for an additional plane.

In February 1987, the formal contract was signed and it included the following offset agreements.

- All offsets were to be fulfilled over an eight year period. If not met within that timeframe Boeing and its subcontractors would continue to apply offsets until 130% was reached.
- Only 10% of the offsets would be directly related to the AWACS program. All other offsets would be indirect in high technology defense and aerospace products.
- Boeing was required to report the status of offset fulfillment semi-annually.

- All bids by British firms to the U.S. prime and subcontractors would be evaluated "competitively" among all bidders. Final awards to British companies would be counted toward the offset.

The offsets would be shared by Boeing's eleven major subcontractors which included Westinghouse, IBM, Northrop, Hughes and Siemens of West Germany (**Table 4:** Major Subcontractors & Their Component Contribution). Each subcontractor would be required to take on a percentage, based roughly on the "percentage of value" that they would contribute to the AWACS. Boeing expected to meet most of its share of indirect offsets by purchasing British-made equipment such as Rolls Royce engines and other aerospace related items.

The direct offsets associated with the British AWACS purchase were significant because they had immediate implications on U.S. industries. Siemens (West Germany) was required to subcontract with Racal (British avionics company) for the displays and controls for AWACS. Hazeltine, a U.S. firm, had previously manufactured these parts for AWACS. This move was defended because Hazeltine was not in a position to absorb the required offsets. Another benefit which British companies indirectly received

TABLE 4: BOEING'S MAJOR SUBCONTRACTORS & THEIR COMPONENT CONTRIBUTION

Subcontractor	Component
•IBM (CC-2 Computer)	Data processing & storage
•Hazeltine/Siemens AG	Data displays
•Northrop	Navigation Computer
•Teledyne Ryan	Doppler radar
•Delco	Inertial navigation
•AIL Div., Eaton Group	Identification
•Rockwell-Collins	HF/VHF radios/TADIL "A"
•E-Systems	UHF radios
•RF products	UHF filters
•Singer-Kearfott	JTIDS

(Source: Third Annual Report on the Impact of Offsets in Defense-Related Exports, 1987 pp 5-6)

through the offsets was access to Boeing's worldwide marketing networks. Due to the relatively small size of British industry and its dependence on exports for growth, the position of several U.S. competitors including Westinghouse was weakened in the global market.

This arrangement also created the potential for technology transfers from the U.S. to Britain. It was feared that Britain's participation in the development for the next-generation AWACS might lead to further displacement of U.S. suppliers. Luckily for the U.S., the U.S. Air Force was also an AWACS "customer" and has continued to rely on AWACS. The strong U.S. commitment to AWACS has ensured a strong market for U.S. suppliers for years to come. [Ref 2:pp. 5-14]

The sale of the AWACS illustrates how the U.S. has aided its allies in developing their domestic industrial capabilities in defense and non-defense sectors. The sharing of a common objective to provide security to the European continent superseded the consequences of the offset to the U.S. industrial base. Given the environment of the time, with the ongoing Cold War and arms sales relatively high compared with today, having the increased competition was not particularly threatening to U.S. industrial competitiveness.

However, if we extend the above mentioned "concessions" into the present, with arms sales having dropped significantly, the level of assistance that the U.S. provided to its allies and friends in the past could have significant consequences in the future. The threat is not at the system level, where the U.S. remains the leader, but rather at the component and subassembly level where many of the offset agreements have been focused. The threat is not that another country will develop a fighter or main battle tank that can compete with a U.S. design, but rather that the wings for that fighter or electronics for that tank may be dominated by a foreign manufacturer whose initial start in that sector was provided by offsets in the past. [Ref 31: pp. 65-67]

These implications are the concern for the future and the symptoms of the globalization trend. To remain competitive and solvent in the long term, the U.S. defense firm must rely heavily on export sales and establish long term relationships with foreign contractors. [Ref 31: p. 67]

D. INDUSTRIAL COMPETITIVENESS

The measure of success U.S. defense industries have had in light of offsets has been favorable. The positive defense trade balance between the U.S. and its trading

"customers" is indicative of the benefits flowing into the U.S. as a result of military exports influenced by offset agreements.

Offset agreements have played a major role in transferring technology and American know-how to foreign companies who now actively compete with U.S. defense firms for market share. In the Boeing sale of AWACS to Great Britain, it ultimately proved beneficial to contribute to Britain's aerospace and electronic firms. The resulting teaming of Westinghouse and the British firm Plessey in fiber optics and electronics will increase the level of competition in that market. The increased competition should lead to reduced prices and an overall increase in quality. [Ref 1: pp. 175-177]

The reduction in the overall number of U.S. defense firms is not entirely attributable to offsets. The recent drawdowns in defense spending and the need for increased cooperation across national lines could continue to "weed-out" non-competitive firms. The future will likely see mega-mergers between defense corporations as firms continue to specialize in specific products. Lockheed Martin and Boeing/McDonnell Douglas should continue to dominate the aerospace industry, maintaining relationships with British Aerospace and Matra of France to support export business.

These relationships will likely continue to be necessary to maintain access to foreign markets and technologies. [Ref 25: pp. 5-7]

U.S. defense firms must also safeguard against giving the technology *farm* away. The future viability and competitiveness of the U.S. defense industrial base will be based upon being able to remain the world leader in military research and development, to include both military specific R&D, and other capabilities derived from commercial R&D with military applications. [Ref 16: pp. 12-18] U.S. research and development must not only look to the near term development of next generation weapon systems to defeat the future threat, but it must also be "partnered" with the U.S. defense industry in cooperative programs designed to support the defense sectors where U.S. dominance is desired.

As weapon systems become more sophisticated in the future, the capability of the subsystems will become more crucial. For example, the Joint Strike Fighter (JSF) involves technological advances in navigation, fire control, composite "stealth" materials and many other areas. Improvements in manufacturing technology will reduce costs and increase performance through the use of robotics and micro-circuit designs. Instead of devoting scarce military R&D funding to all the areas (components/subsystems), DOD

and the defense industrial base should look to the commercial sector for potential spin-off technologies. [Ref 16: pp. 18-25]

E. SUMMARY

This chapter has shown that offsets are a way of life and are rapidly becoming a condition of sale in most international arms agreements. Countries will continue to require offsets for various strategic and economic reasons. Strategically, countries want to gain new technologies and build their own defense industry infrastructure. Economically, countries use offsets to enter new markets, create jobs and to acquire new commercial and military technologies.

The negative impact of offsets has been minimal. Monitoring and administration of the program has been difficult, but overall they have not had a negative impact on particular programs or the U.S. economy. [Ref 14: p. 2]

On the positive side, offsets have increased competition, overall defense business, and rationalization standardization and interoperability (RSI). The increase in the number of countries producing arms or subsystems, coupled with shrinking U.S. military budgets and an increasingly competitive market, make it evident that

"transnational" cooperation in arms development and production is necessary to maintain the core capabilities within the U.S. defense industrial base. [Ref 14: pp.1-3]

Defense company officials openly state that without offsets, most export sales would not be made and the positive effects of these exports on the U.S. economy and defense industrial base would be lost. [Ref 14: pp. 1-2]

Chapter IV looks at the data collected and the findings associated with a survey sent to five of the largest defense contractors. The survey was intended to solicit ideas and concerns about current FMS policy as it relates to the preservation of the defense industrial base. Following the data, a thorough analysis is presented.

IV. DATA PRESENTATION AND ANALYSIS

A. INTRODUCTION

This chapter presents and discusses the data collected concerning FMS policy as it relates to the preservation of the Defense Industrial Base. Data were collected using archival research coupled with a survey which was sent to five of the top ten major defense contractors. The survey is provided in Appendix A.

This chapter is divided into two sections. First, the data collected from the surveys are presented. Second, this chapter presents an analysis of the information and data introduced in this chapter and previous chapters.

B. DATA COLLECTION

The survey in Appendix A was utilized as the framework to collect pertinent data for this thesis. The questions were left open-ended, to promote responses which would lead to meaningful issues for further discussions. The participants were informed as to the nature of the study. Some participants were unable to complete all survey

questions due to company policy concerning certain types of data.

Participants in the surveys provided, in some cases, rather frank and personal views in answering the questions. In order to provide a degree of anonymity to the respondents, the presentation format for the data collected from the surveys will not reference the respondents, but will present all answers received for each question. Since surveys were used, exact statements will be presented.

Each question from the survey is listed followed by the answers received and a summary. Answers are in no particular order.

1. **What percentage of production lines in your company are strictly commercial? What percentage are for U.S. Defense? What percentage are strictly FMS? What percentage are U.S. Defense and commercial? U.S. Defense and FMS? Commercial, U.S. Defense and FMS combined?**

- Commercial--15%

  U.S. Defense--60%

  FMS--25%

  U.S. Defense and Commercial--75%

  U.S. Defense and FMS--85%

  All combined--100%

- Commercial--Approximately 15%

  U.S. Defense--Approximately 50%

FMS--Approximately 35%

U.S. Defense and commercial--Approximately 65%

U.S. Defense and FMS--Approximately 85%

All combined—100%

- Majority of production lines are primarily U.S. defense and are augmented by FMS and Foreign Commercial contracts. Most recent years "business mix": U.S. Defense--66% Commercial—34% 89%-domestic and 11%--international
- Currently contractor has a 70—30 split of work. Contractor's commercial workload has continuously increased as the military work has been decreasing. **At particular site the majority of components produced will be for FMS.

Summary: The average for FMS was almost 25%. Of note, this figure is much larger when looking at FMS and U.S. Defense—slightly over 80%.

2. **If FMS unique production lines were eliminated, what would be the impact on your company and your ability to respond to U.S. surge requirements?**

- Contractor does not have any FMS unique production lines.
- Company has few FMS unique production lines. The ability to surge is dependent upon material input, tool capacity and human resources. Having an

operating production line with the attendant supply chain and human resources provides a base from which to surge. In the majority of cases of the company, DOD contracts provide that base. In some few cases exclusive FMS contracts provide the base.

- There are no unique production lines for FMS. If FMS business were eliminated, certain aerospace production lines would close and the economic viability of some programs would be poor—uncompetitive.
- With some products, FMS is the main or sole purchaser. Without FMS, in these cases, surge capability would be impacted as the production lines would likely be dormant or eliminated.

Summary: Overall responses indicate that there are few FMS unique production lines. It seems, however, for those that do exist, surge capability would not exist without FMS keeping certain production lines open. Certain programs would not continue to operate without FMS cases.

3. Are FMS arms sales making up for overall production "losses" due to the shrinking U.S. military budget?

- No.

- Yes, but not at the same rate of "loss" due to U.S. budget declines.
- Yes, direct FMS sales have kept the production lines open. The lines are not unique to FMS.
- In general, FMS has fallen as well. Without reviewing market studies I would venture that FMS reductions are proportional to DOD reductions. Many of the geo-political factors that affect the U.S. are the same as with our FMS partners.

Summary: Overall it seems FMS has fallen, very similar to the U.S. Defense budget. The end of the Cold War has caused a world-wide reduction in arms production and purchases. Direct sales may be an answer to keep some FMS production lines open.

4. What has been the impact of post-Cold war drawdowns and changes in overall military strategy on your company? Please be specific.

- The post-Cold War era has forced dramatic changes at the company. In general, it has led to tremendous consolidation of the defense industry. In order to remain competitive in this environment, the company has changed its strategic focus from a principal builder of aircraft and aerostructures to an electronic systems and integration house. The company has strategically positioned itself through

a number of acquisitions which have improved its information technology capabilities. These acquisitions have allowed the company to grow in these fiercely competitive times.

- Military budget has decreased causing a swing of activity to commercial aerospace business. (70–30) split) Long term effect–causes critical shortages to support field in long lead times.
- Increased mergers and acquisitions to achieve market share and critical mass.
- Increased emphasis on international markets.
- Reductions in sales, earnings and employment are down by 60%. We are at or near minimum size to maintain technical competencies. We are clearly not doing advanced development at former levels. This has created problems with obsolescence and diminishing manufacturing sources (DMS).

Summary: The consensus is that post-Cold War drawdowns have hurt the defense industry from a sales and employment perspective. Mergers have kept some firms competitive. International sales are sought to make-up for U.S. defense reductions.

5. **Have the recent military drawdowns and reductions in DOD budgets affected your company's ability to respond to defense surge requirements? If so,**

please elaborate on certain shortfalls on your company's ability to respond. If not, what actions are you taking to mitigate this impact on your capabilities?

- Since the budget reduction, contractors are using "just in time inventory". Late procurement of long lead items has increased the number of requests for accelerated delivery on contracts. The contractor can no longer advance release for raw material to shorten the cycle time when the contractor may not be issued the procurement.

- Current surge capabilities not affected as consolidation has provided means to surge. Budget reductions have provided some additional excess capacity to surge as well.

- The drawdowns have affected industry's ability to surge. Supplier resources and human resources have adjusted to the market factors. Just as many suppliers have withdrawn from the industry, so has a workforce that took a generation to build. With unemployment at all time lows, a large surge requirement would be very difficult to staff with qualified workers.

- Had tooling and supplier base for 18–20 aircraft a year. We now have capability for 8 per year. We had a large percentage of our co-producers, tooling and major suppliers business base. This reduction in number of aircraft being produced has caused us to become the smaller percent of their business base.

Summary: Drawdowns have affected defense industry's ability to surge. Reduced funding has led to increased cost to carry inventory and a reduction in the supplier base. In some instances excess capacity does exist, but the ability to "staff" those lines with qualified workers would be difficult.

6. **What role do offsets play in the conduct of FMS cases as they pertain to your company and the industry as a whole? How are they beneficial or detrimental to your company? Please provide examples.**

- Offset commitments have become a standard requirement for U.S. defense contractors for both FMS and commercial sales of military equipment and/or services. There are very few countries around the world (the U.S. being the major exception) that do not require some level of offset. In fact, in many countries, offset is now considered one of the major selection criteria, along with

technical, price/financing, and political in their evaluations. In selected countries, offset has even become their top selection priority.

- We have been able to identify and place long-term contracts with foreign companies that are low cost, quality suppliers. This has positively impacted our ability to provide a quality product at a lower cost.
- Detrimental: Offsets increase the overall product/program cost to our foreign customer.
- Offsets have become a condition of sale in most major FMS cases. In order for a country to gain internal political approval for the purchase of a major weapon system, champions of the purchase must be able to justify to all constituents the large outflow of dollars. The company has significant experience in offsets, industrial participation and countertrade. We view offsets as a competitive discriminator and an opportunity to differentiate ourselves and products in a highly competitive market. As long as a country has industrial objectives and resources, we are willing to promote an offset agreement in support of the sale.

- Some countries require offsets as a condition of sale. Therefore, companies must enter into offset agreements directly with certain countries to consummate FMS or direct commercial sales. Offsets are beneficial in the sense that they support the generation of sales. They are detrimental in that they create an obligation that must be satisfied and include terms that create financial and political liabilities.
- There is increasing demand for offsets as a condition to the sale. There is an increasing demand for offsets that provide technology transfer, that exceed value of purchase, that require development of new business ventures, etc.
- FMS offsets assist the contractor in keeping product lines open.

Summary: It seems offsets are a part of almost every FMS case. In some instances the offsets were more important than price or financing. While offsets do keep production lines open and assist in consummating deals, they do create future obligations with possible political and financial ramifications.

7. **What percentage of your FMS cases have associated offset obligations?**

- No information available at this time.
- Approximately 100%.
- 95—100%. While the customer may have an offset policy, a particular FMS sales contract may be so small it does not meet the country's minimum procurement amount to require an offset commitment. As an example, Kuwait does not require offset on defense procurements of less than $1 million Kuwaiti Dinars or approximately $3.25 million (U.S. dollars).
- Virtually all major contracts that we are party to have offset obligations. The percentage of the obligation range from 30% to 100%.
- Approximately 66% to 75%.

Summary: The consensus is that offsets are a condition of sale and are found in **almost every** FMS case.

8. **Would you say recent defense drawdowns and the reduced DOD budget has hurt small business subcontractors? To what extent has this impacted the subcontractors you use? What can the Government do to assist small businesses in obtaining subcontracts? What strategies can they use for survival?**

- Recent drawdowns and reduced budget have impacted small businesses. The company has relied on small

businesses to supply them with a wide variety of product and services. Small businesses' ability to react quickly to requirements has allowed the contractor to respond to customer needs in a timely manner and remain in the competitive jet market.

- The uncertainty of the DOD budget continues. Funding for most weapon programs have been reduced with very few programs receiving increases. Existing programs are winding down and in most cases, new contracts are not replacing the completed contracts. Reduction has resulted in consolidation of large prime contractors. For the small businesses, the reduction in program funding has meant in many cases the demise of small firms. For those that survive, it means a much keener control over costs and operations in order to compete for the limited available program dollars. These are the same dollars that the large businesses will also be competing for. Some subcontractors have found it more profitable to manufacture titanium golf shafts than jet engine parts.
- Yes, DOD budget reductions have hurt small business subcontractors. The number of subcontractors we use has been reduced by 60% and some will disappear.

Subcontractors now must win commercial business. Being commercial requires being very price competitive and in many cases has meant making FMS/U.S. Defense business a lower priority. The Government can help more businesses in the industry by increased Government spending. The Government could help by allowing more international business. Drawdowns have affected the entire industry. Not only have the prime contractors consolidated but many suppliers have withdrawn from the defense business due to decreasing opportunities and increasing competition. Additionally, the decrease in the commercial market production of 1992--1996 exacerbated the reduction in the supplier base. When the commercial market turned around and increased demand in 1997, there was not enough capacity in the supplier base. This resulted in unprecedented part shortages in support of one company's commercial aircraft. If a military surge requirement were placed on top of existing demand, Government intervention would be required to ensure that military requirements received first priority. In order to preserve a base of small business suppliers, the Government needs to continually

eliminate military standards and move toward commercial practices to help reduce overhead and buy-in costs for small businesses.

Summary: The small subcontractor base has definitely decreased due to DOD budget reductions. Large prime contractors have fewer subcontractors available for "partnering". It is essential that small subcontractors look to commercial markets to survive. The ability to surge production has been affected by the reduction in the number of small subcontractors. The Government can help by ensuring a certain amount of budget dollars are awarded to small subcontractors and move toward more commercial practices and standards.

9. What are your current concerns about FMS policy as they relate to your company and the Defense Industrial Base?

- The foreign release policy is one of the largest factors affecting FMS programs. Weapon system sophistication and technology as opposed to the number of weapons that can be purchased per monetary unit, are becoming increasingly critical to international buyers. Over the years overseas competitors have increased their technology offerings so that now many are on par with U.S. systems. This will increase their international

competitiveness resulting in a reduction in the U.S. product market share.

- FMS policy is too rigid and costly when compared to other countries' policies on military sales. The process is time consuming, inflexible to customer needs and costly when considering the U.S. Government "taxes" added to the manufacturer's price.
- FMS policy has not adjusted to the United States' need for sales versus long standing dedication to implementing Foreign Policy. FMS policy is costly, restrictive and unnecessary. FMS policy is in immediate need of an overhaul to permit more hybrid commercial/FMS sales. FMS processes and practices, as well as advocacy, vary between Services.
- The shrinking of the overall Defense Industrial Base will ultimately increase prices to FMS and domestic customers.

Summary: International competition is on the rise. Respondents feel FMS policy is costly and inflexible. FMS policy has not "adapted" to changes in U.S. Foreign Policy nor to changes in the international arms market. Foreign Policy is taking precedence over FMS policies which is restricting major defense firms.

10. Do current U.S. FMS defense policies promote or hinder arms transfers and FMS sales? If so, what specific policies do you find beneficial or detrimental to your company?

- Hinder, FMS credit funding levels need to be created. The approved country list needs to be expanded. Technology releaseability policies and follow-on support are too restrictive.
- R&D recoupment is detrimental. With less weapons production, industry has looked to R&D and maintenance/repair as ways to remain profitable. U.S. Government added costs are detrimental.
- Relaxation of the arms transfer and FMS sales policy, although good for DOD may ultimately be detrimental to the warfighter. An enemy could become armed with our technology.
- FMS policies are important for the control of technology. It preserves the United States' right to critical technology and allows the U.S. to exercise varying levels of control over the technology that it exports. In some cases this allows the U.S. to exert control over non-cooperating partners through its control of the supply chain. FMS policies both promote and hinder arms sales. On one hand, they carry the endorsement

and assurances of the U.S. Government and on the other hand they impose limitations and add cost to the offerings.

Summary: FMS creates a great responsibility to control the diffusion of technology. Respondents generally agree that relaxing the arms transfer process can have both negative and positive results. One respondent was very adamant that FMS policy hinders the defense industry and revisions are necessary to facilitate future FMS cases.

11. What additional steps can the Government take to assist your company in the establishment of FMS cases?

- No Comments.
- Retain the International Traffic in Arms Regulation (ITAR) but overhaul the FMS system.
- The export license process is one of the most cumbersome aspects of international sales and has a lot of room for streamlining. The rules are complex and leave a lot of room for interpretation. They are not consistent from case to case. Approvals take 90 days to six months and take a lot of time and manpower to prepare. Licenses are inflexible to changes without going through a lengthy amendment process. In general it hinders U.S. companies'

ability to respond to the market as quickly as today's market changes.

- Companies wish to develop a partnership with industry to address the market place and to allow for direct commercial sales in lieu of FMS.

Summary: Respondents believe the FMS system is in need of some changes. Several company representatives recommended direct sales and more reliance on the ITAR as possible solutions. Overall consensus is that rules are rigid and the approval process is time-consuming and expensive.

C. ANALYSIS OF SURVEY DATA

1. Impact of FMS on U.S. Defense Industry.

The respondents to the survey reported that FMS comprises anywhere from 25% to 30% of their total sales. With the inclusion of U.S. Defense sales, those numbers increase to approximately 70–80%. The Cold War is indeed over, but major defense firms still rely on defense related FMS products and services. The overall numbers approximate what was expected, but it was thought FMS would comprise an even larger percentage of overall sales. The researcher's hypothesis was based on information that indicates overall U.S. Defense spending has declined in recent years. This,

coupled with recent defense mergers, led the researcher to believe FMS was increasingly important to overall company survival.

When respondents were asked about FMS unique production lines and their impact on the company's "bottom-line", the responses were surprising. Not one company would openly admit certain production lines were solely for FMS cases. In reality, many U.S. weapon systems now being built—including most F-15 and F-16 fighters, M-1 tanks and AH-64 helicopter gunships—are bound for foreign countries. Today, only two major defense contractors produce fighter aircraft in the U.S.-Boeing/McDonnell Douglas and Lockheed-Martin. FMS is a big reason why these two contractors are still in the fighter business. The last F-16 produced for the U.S. Air Force (USAF) was delivered in 1997 (FY-94 procurement); Lockheed-Martin will continue producing them for FMS countries through the turn of the century. For Boeing/McDonnell Douglas, the USAF has already received its last F-15Es. Foreign procurements will keep these production lines operational through the end of the decade. Since these production lines are still viable, the opportunity does exist for the USAF to restart new production without exorbitant start-up costs. In FY-95, the

USAF did issue a request to purchase 120 F-16Cs and 18 F-15Es to maintain its present level of fighter wings into the next century. This would not have been feasible if FMS had not kept these production lines active. [Ref 30: pp. 24-25]

It is important to consider that nearly all production lines for present fighter aircraft and all lines for tanks will be ending in the near future (except for the follow-on F/A-18E/F model aircraft). Follow-on systems such as the F-22 and Joint Strike Fighter (JSF) are still three or more years off due to stockpiled weapon systems, the lack of a viable threat and reduced procurement dollars. DOD, however, is beginning to recognize the importance of U.S. production lines with their inherent technological processes, and it is taking steps to preserve this portion of the defense industrial base. Sales of the F-15E to Saudi Arabia and Israel are excellent examples of this type of preservation. The McDonnell Douglas F-15 was about to go out of production until sales were made to Saudi Arabia in the mid-1990s. [Ref 13: pp. 21-23]

Further examination of data show that surge requirements can be met by operating production lines from present DOD contracts, and in a few cases, from exclusive FMS contracts. There should be some short-term surge capability, medium-term expansion capability, and long-term

reconstitution capability in the U.S. Defense Industrial Base. These jobs cannot be started up over night. If production lines are closed, important defense workers lose their jobs, subcontractors move into different businesses, and many suppliers go out of business, never to be found in time of need. If the U.S. Defense Industrial Base is unable to provide adequate spares for fighter aircraft and armor weapon systems in our inventory, the U.S. military will have a very difficult time fighting any prolonged conflict.

In response to Question 3, respondents have different answers. One contractor states "no", FMS has not made up for production losses due to budget reductions. Two respondents feel FMS was helping to "offset" the losses, but not at the same rate of losses due to reductions in the domestic budget. One respondent claims FMS has fallen as well (as the budget) due to world-wide political factors. Competition has arisen from international defense contractors. Our coalition partners and allies want next generation equipment. If they don't get it from the U.S., they will get it from someone else. The U.S. weapons-market share briefly increased after the Cold War at the expense of its competitors. Between 1986-89 and 1990-93, the value of Great Britain's exports shrank seventy-six percent, while Russian and Chinese exports fell sixty-eight percent. Over

the same time span, the value of United Sates contracts climbed 134 percent. Presently, exports world-wide have fallen. With the end of the Cold War many countries are looking to re-shape their economies and enter new markets (technology/pharmaceuticals) as the world heads into the 21st century. [Ref 26:pp. 1-4]

2. The Impact of DOD Drawdowns on the Defense Industry, Surge Capabilities and the Small Subcontractor.

Questions 4, 5 and 8 deal with the impact of DOD drawdowns on the defense industry, surge capabilities and small business subcontractors. Overall responses to these questions are in line with researcher expectations. Defense firms have focused on mergers and consolidations to remain viable. Acquisitions have been vital to company stability. Defense firms have used the mergers to maintain market share. An essential question is whether or not U.S. defense firms, despite the significant decline in defense procurements, remain capable of satisfying weapon system requirements to support foreign policy.

In response to surge capability, one respondent answers that the increased use of just-in-time inventory has led to a reduction in advance purchases of raw materials. The prime

contractor is presently unable to maintain a large inventory of supplies, a situation which can lead to increased cycle time for procurements. Another respondent emphatically states that the ability to produce aircraft has been reduced more than 50%. No longer does it maintain the tooling and supplier base necessary for surge requirements. One respondent focuses on the fact that the defense industry is not simply a few large contractors working exclusively to supply weapon systems to DOD. While there are some cases in which only a single supplier of a particular system exists, such suppliers typically employ 800 to 1,000 subcontractors, who contribute about 60% of the value of delivered systems. Supplier and human resources have declined and a workforce that took the better part of the 20th century to build has been lost. Only one respondent feels current surge capabilities have not been affected. This individual strongly feels budget reductions provide the excess capacity necessary for surge requirements.

Based on overall survey data, this researcher feels surge requirements involve doubling or even tripling the output of certain weapon systems. Excess line capacity alone is not sufficient to meet these needs. Retooling/refitting and training (personnel) may be necessary to meet the Government's needs.

In answering Question 8 of the survey, respondents overwhelmingly agree that defense drawdowns have negatively impacted small business subcontractors. These losses have greatly affected surge requirements because small businesses can react quickly to unique procurements. Small business subcontractors have developed a variety of strategies to compensate for the defense drawdown. Many have simply left the defense industry completely. Others, including prime contractors, have reduced their defense operations. Some companies have diversified into the commercial sector so they can maintain a lower level of defense production. With numerous base closures, certain services have prospered, for example, environmental clean-up, warehousing and facilities related services have increased. [Ref 20: pp. 20-21] The adoption of commercial standards is a possible solution to assist small businesses reduce their overhead and start-up costs. Overall, many respondents recommend increased funding for small businesses and a move to commercial practices as possible solutions to the reductions in the small business supplier base.

The Bush Administration had hoped to let market forces pare down the size of the U.S. defense industry. Its policies were designed to allow market forces, rather than intervention, subsidies, or protection, produce the

strongest foundation for future defense needs. The policy was criticized by defense experts, charging that the free market is motivated primarily by short-term profit and would not have any regard for the importance of long-term investment or for the country's national security needs. Today, the Clinton Administration hopes to assist the defense industry (prime and small subcontractors) by developing long-term national security interests and improving U.S. economic competitiveness worldwide. [Ref 15: p. 3]

3. Role of Offsets

Questions 6 and 7 address offsets, their prevalence in export sales, and the role they play in the conduct of FMS cases. When this thesis began, the researcher had divided views on offsets. On one hand, offsets are seen as an unavoidable part of doing business overseas. On the other hand, offsets can negatively affect the defense industry and other U.S. interests. Specifically in Question 6, respondents claim that there is an increasing demand for offsets and most companies feel compelled to enter into offset agreements to consummate a FMS case. Respondents do point out, however, that offsets also create obligations that must be satisfied in the future that can become a political, as well as financial, liability. Most agree that

offsets are beneficial when assisting companies to gain or maintain a foreign customer base. One respondent even points out that most offset costs are recoverable and regulated by the DOD FAR Supplement (DFARS) for each FMS case. Views on the impact of offsets on the U.S economy as well as specific defense industries are difficult to establish without reliable data. The Department of Commerce is currently gathering information on the impact of offsets and is expected to issue a report in late 1998—early 1999. The General Accounting Office (GAO) reports that actual offset incidence is approximately seventy percent. [Ref 14: p. 2]

Those surveyed in this study felt offsets can also be detrimental because they increase overall product/program costs. An additional 3%-5% for offset plus a 5% U.S. Government administration fee for FMS can make a proposed program unaffordable to potential foreign customers. Respondents also state that offsets require a company to commit significant overhead resources (financial and manpower) to identify and develop offset program proposals in support of FMS sales campaigns (these are non-recoverable costs).

As indicated by responses to Question 7, prevalence of offsets in FMS cases is clearly evident. Respondents overwhelmingly state that virtually all major contracts have offset obligations. On average, respondents stated, approximately 85% of all FMS cases have associated offset requirements (GAO 1996 report states 70%).

It is obvious that there is difficulty in accurately measuring the impact of offsets on the overall U.S. economy and individual sectors of the defense industry. The data show that overall, company officials feel that without offsets, most export sales would not be made and the positive effects of these exports on the U.S. defense industrial base would be lost. Offsets help foreign buyers build public support for purchasing U.S. products, especially since weapon procurement often involves the expenditure of large amounts of public monies on imported systems. Other company officials indicate that export sales provide employment for the U.S. defense industry and help reduce unit costs to the U.S. military. Respondents also note that many offset deals create new and profitable business opportunities for themselves and other companies. Some examples include the United Arab Emirates paying a U.S. law firm to draft the country's environmental laws. They also contracted with McDonnell-Douglas for a product that

cleans up oils spills. The United Arab Emirates is also working with Chase Manhattan to establish an off-shore investment fund. Some company officials comment that indirect offsets make more sense for countries than defense-related offsets. Overall, U.S. companies feel they are able to meet offset demands. [Ref 14: pp. 6-7]

As the researcher concludes this area of analysis, it seems the positive affects of offsets may outweigh negative concerns.

4. Current Industry Concerns

Questions 9, 10 and 11 examine current concerns and future recommendations concerning FMS policy. The respondents' comments are in line with the researcher's thoughts on the rigidity of FMS policy. Respondents believe FMS policy overall is time consuming and inflexible--exactly what is depicted in Chapter II. Respondents also feel a "new" system, which permits more commercial and direct sales, should be implemented. The researcher is actually surprised that two respondents express concern about technology transfer and the impact it could have on the American "warfighter". While most respondents speak from an industrial point of view, there are comments that advocate tight controls that safeguard critical technology.

Respondents generally agree that the U.S. has the military equipment and services of choice, but due to policy constraints many countries are unable to acquire it. Controls make it difficult for most countries to even be permitted to purchase U.S. weapon systems. Overall respondents feel restrictions must be reduced so the defense industrial base can remain strong. This researcher agrees controls are necessary, but certain concessions can be made to assist the defense industry.

Question 11 asks for specific recommendations and steps the Government can take to assist in the establishment of FMS cases. One respondent states that the export license process is cumbersome and in need of streamlining. This is a new point brought out to the researcher and one the Government should examine. Another respondent sums it up nicely when he states "a partnership with industry to address the market place and to allow for direct commercial sales in lieu of FMS" is needed.

It is true U.S. defense contractors may sell directly to a foreign buyer under the U.S. ITAR with the approval of the Office of Munitions Control (OMC). Any company that manufactures or exports defense articles or services is required to register with OMC. OMC in return coordinates the request for permission to export defense articles and

services. A license must be granted by OMC before defense articles may be exported. If there is any doubt about issuing an export license, it is sent to the State Department for review. After approval by respective Government offices, OMC requires the receiving country to sign an end user certificate, and the export license is issued. [Ref 22:pp. 23-24] The entire process just described can be very time consuming and if not approved, prevent the conduct of FMS cases.

D. SUMMARY

This chapter presents data collected from a survey, and an analysis of those survey data and the information presented in previous chapters. The survey was utilized to gather data from five major defense companies. The questions and data were grouped into four topic areas and analyzed along with other information presented in Chapters II and III.

V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

Since the late 1980's, the DOD budget has sharply declined. This decline has translated into fewer DOD procurement dollars which in turn has affected the U.S. Defense Industrial Base. The U.S. Government can preserve the Defense Industrial Base by aggressively supporting U.S. defense firms in Foreign Military Sales. Arms transfers will continue to be an instrument of foreign policy. The stringent controls in the arms transfer decision-making process, however, must be streamlined to reflect current security and economic concerns.

As a result of the research, the following conclusions have been drawn. Their sequence does not signify any order of priority or preference.

1. The decision-making process of the president, the Department of State, DOD and other governmental agencies is stifling FMS cases. There are too many rules and regulations, as well as political restraints, that force many nations to go elsewhere for their arms requirements. The loss of sales has hurt the defense industry. The U.S.

is in a position to maintain market share and assist the defense industry by easing the rules and regulations. U.S. export controls can be enhanced by developing a shared database of export items, buyers and end-users that pose a proliferation risk. The approved countries list must be updated periodically to reflect current foreign policy.

2. **Foreign governments will continue to require offset agreements as a condition of sale.** Offsets are considered an important competitive tool for U.S. defense contractors. While some argue offsets are illegal or immoral, they are nothing more than a way of engaging in a reciprocal trade agreement. The results of this study suggest that the U.S. must retain control over technology processes, but not on the sale of technological products.

3. **The export license process must be liberalized in DOD.** The Department of Commerce has reduced controls in export procedures. In the mid-1980's, approximately 120,000 licenses were reviewed annually. In 1994, only 16,000 licenses were reviewed which allowed for the rapid establishment of FMS cases [Ref 5:pp 65-69]. Such streamlining can also be applied to DOD. Presently, approvals take anywhere from ninety days to six months and a lot of time and manpower is exerted to prepare a case. Licenses are inflexible to changes and go through a lengthy

amendment process. In general the export license process hinders U.S. companies' ability to respond to the market as quickly as today's market changes.

4. Most major weapon system production lines will be ending in the near future. Proposed follow-on systems such as the Joint Strike Fighter (JSF) and F-22 Raptor are years away from fielding due to a reduced defense budget and the lack of a viable threat. The number of programs that are available for FMS is decreasing. It is doubtful whether the JSF and F-22 will be made available for FMS due to their advanced technology and stealth architecture.

5. FMS sales are not making up for overall production losses due to the shrinking U.S. military budget. Since the end of the Cold War, FMS sales have fallen as well. Defense firms surveyed feel FMS reductions have been proportional to DOD reductions.

B. RECOMMENDATIONS

Maintaining America's military strength requires a strong defense industrial base that can produce a sufficient number of modern weapons to sustain the U.S Armed Forces during combat. The present administration risks undermining the industrial base through defense budget reductions that are too deep and too focused on decreasing procurement

budgets for major weapon systems and in turn the opportunity for FMS cases. America's soldiers, sailors and airmen could pay a high price in future conflicts as a result of this policy. The following recommendations should be considered:

- Direct sales should be adopted in instances where foreign policy dictates. The approved countries list for FMS should be updated periodically to reflect present foreign policy. The Cold War is indeed over and our FMS policy should reflect the changes seen in the international community.
- FMS cases should be tailored like all other acquisition strategies. Outdated templates should be abandoned in order to stream-line FMS controls. Each case should be handled individually which will reduce waiting time and associated cost. If we do not liberalize our FMS controls, our closest allies will take their business elsewhere.
- The Government should use commercial specifications to a greater extent. With this policy, there would be less additional set-up and developmental costs for defense firms. The defense industry would be able to not only fulfill its military orders, but also look to the civilian sector for business. This

policy would not only benefit major defense firms, but also small business subcontractors.

- The defense industry must maintain a surge capacity. Surge requirements can be met by existing production lines from DOD contracts, and in a few cases, from exclusive FMS contracts (F-15, F-16 & M-1). There must be a short-term surge capacity, medium-term expansion capability, and long-term reconstitution capability in the U.S. Defense Industrial Base. High-technology weapon systems cannot be started up over night. When production lines close, important defense skills are lost and many suppliers go out of business.
- The Government should broaden the procurement base which requires a shift away from a mind-set and acquisition system designed for Cold War defense. Reducing barriers to entry would attract civilian-oriented companies to the military market. A policy shift from reliance on a tightly controlled defense industrial base to a broader national industrial base, serving defense and civilian sectors, should be adopted.
- The U.S. Government should enhance the competitiveness of U.S. industry abroad by

facilitating market position in the international marketplace. U.S. technology transfer and security policies should shift from a protectionist stance to one that supports industry-to-industry cooperation. This policy must balance guarding U.S. critical military technologies with addressing foreign policy issues such as arms proliferation. Such technology and foreign policy goals should be identified and supported. [Ref 27: pp. 2-5]

The challenge for the United States is to harness the economic growth capacity of new technologies and industries to remain the world's premiere power. The productive and technological base remains a firm foundation of national power against which a number of instruments, including military power, may be leveraged to influence world events. The U.S. Defense Industrial Base requires aggressive support. The challenge can be met by supporting U.S. defense firms in the arms transfer process while at the same time controlling the spread of technological processes. Streamlining the labyrinth of controls associated with FMS can help maintain the defense industrial base, and keep it viable as an integral part of national strategy.

C. SUMMARY OF RESEARCH QUESTIONS

In order to accomplish the objectives of this study, the following research questions were pursued.

1. Primary Research Question. **Does current FMS policy hinder or facilitate the preservation of the United States defense industrial base?**

As identified and discussed in Chapter IV, there are various feelings about this question. The defense industry seems to believe FMS policies are important for the control of technology. Relaxing arms transfer policy would be good for industry, but could be detrimental to U.S. servicemen. Companies agree present policy must be streamlined to facilitate FMS cases. The approved country list must be expanded and technological releaseability policies should be reviewed.

2. Secondary Research Question #1. **What is the purpose of FMS?**

Section 516 of the Foreign Assistance Act authorizes the transfer of defense articles to members of NATO, non-NATO members on the southern flank of NATO, and to countries which contributed armed forces to repel Iraqi aggression in the Arabian Gulf. FMS allows defense firms to export

approved products and services which benefit the defense industry and are in line with foreign policy of the U.S.

3. Secondary Research Question #2. **What current policies guide the conduct of FMS?**

The Arms Export Control Act (AECA) of 1976 and the Foreign Assistance Act of 1961, as amended, allow the President to delegate the authority for arms transfer policy. President Clinton's Conventional Arms Transfer Policy is designed to enhance the ability of the defense industry to meet U.S. defense requirements while maintaining long-term technological superiority at lower costs. This policy offers few suggestions on how to accomplish this and it continues to stress a Cold War security mentality.

4. Secondary Research Question #3. **What has been the impact of post-Cold War U.S. drawdowns and changes in overall military strategy as it affects the defense industrial base?**

The declining budget has had a tremendous affect on the defense industrial base. The inability of the DOD to maintain programs and enter new procurements has led to large scale mergers and many companies leaving the defense business. Reduced funding for existing programs has influenced both prime and subordinate contractors.

5. Secondary Research Question #4. **What are the roles of offsets in FMS and how do offsets facilitate the preservation of the defense industrial base?**

Offset agreements have had a positive affect in the area of industrial competitiveness. The success U.S. defense industries have had in light of offsets has been favorable. The positive trade balance between the U.S and its trading partners is indicative of the benefits flowing into the U.S. as a result of military exports with associated offset agreements. As reported by one respondent, some offset agreements have led to new advances in technology development that might be used to improve systems and reduce costs for the Armed Services. Offset arrangements are not new to military export sales and are often an essential part of a FMS case.

6. Secondary Research Question #5. **What are the current Government and industry concerns about FMS Policies as they relate to the defense industrial base?**

The Government feels FMS policy is important for the control of technology. It preserves the United States' right to critical technology and allows the U.S. to exercise varying levels of control over the technology it exports. The surveyed defense firms feel FMS policy has not adjusted

to the needs of the defense industry and current foreign policy. Industry states FMS is costly and restrictive. Further reductions in the Defense Industrial Base will ultimately increase defense article prices for FMS and domestic customers.

D. ADDITIONAL AREAS OF RESEARCH

This research evaluates the impact FMS policy has on the preservation of the U.S. Defense Industrial Base. The following questions warrant further research:

1. To what extent do international arms markets affect the U.S. Defense Industrial Base?

2. What impact have defense mergers had on the U.S. defense industry and the probability of future mergers in the industry?

3. What lessons can be learned from examining a specific FMS case (F/A-18 or F-15) from inception to completion in order to document the entire process? The study should examine the time taken for approval, associated offsets and the impact that case has on the defense firm. (e.g. production lines, jobs, etc.)

APPENDIX

QUESTIONNAIRE

1. What percentage of production lines in your company are strictly commercial? What percentage are for U.S. defense? What percentage are strictly FMS? What percentage are U.S. defense and commercial? U.S. defense and FMS? Commercial, U.S. defense and FMS combined?

2. If FMS unique production lines were eliminated, what would be the impact on your company and your ability to respond to U.S. defense surge requirements?

3. Are FMS sales making up for overall production "loses" due to the shrinking U.S. military budget?

4. What has been the impact of post-Cold War U.S. drawdowns and changes in overall military strategy on your company? Please be specific.

5. Has the recent military drawdown and reductions in DOD budgets affected your company's ability to respond to defense surge requirements? If so, please elaborate on certain shortfalls on your company's ability top respond. If not, what actions are you taking to mitigate this impact on your capabilities?

6. What role do offsets play in the conduct of FMS cases as they pertain to your company and industry as a whole? How are they beneficial or detrimental to your company? Please provide examples.

7. What percentage of your FMS sales have associated offset obligations?

8. Would you say recent defense drawdowns and the reduced DOD budget has hurt small business subcontractors? To what extent has this impacted the subcontractors you use? What can the Government do to assist small business in obtaining subcontracts? What strategies can they use for survival?

9. What are your current concerns about FMS policy as they relate to your company and the defense industrial base?

10. Do current U.S. FMS defense policies promote or hinder arms transfers and FMS sales? If so, what specific policies do you find beneficial/detrimental o your company?

11. What additional steps can be taken to assist your company in the establishment of FMS cases?

LIST OF REFERENCES

1. Bitzinger, Richard A., The Globalization of the Arms Industry: The Next proliferation Challenge, International Security, Volume 19, No. 2, Washington, D.C., October 1994.

2. Chavez, Antonio, The Third Annual Report on the Impact of Offsets in the Defense Related Exports, December 1987.

3. Clinton, Bill, A National Strategy of Engagement and Enlargement, U.S. Government printing Office, Washington, D.C., 1994.

4. Collier Encyclopedia, *Lend Lease,* Volume 14, 1995.

5. Davis, Lynn E., Export Controls and Non-proliferation Regimes in the Post-Cold War World, Reprinted in the DISAM Journal, Spring 1994.

6. Defense Almanac, Comparison of Figures from Defense Almanac 1989 and 1994, U.S. Government printing Office, Washington, D.C., 1994.

7. Defense Institute of Security Assistance Management, *The Management of Security Assistance,* 1994.

8. Defense News, Clinton Will Soon Sign Arms Transfer Policy, Defense News, Washington D.C., October 24, 1994.

9. DelGreco, William J., The Diffusion of Military Technologies to Foreign Nations, Master's Thesis, School of Advanced Airpower Studies, 1996.

10. Department of Defense, Defense Security Assistance Agency Fiscal Year Series, September 30, 1993.

11. Draft legislation Before the 103d Congress, The Peace, Prosperity and Democracy Act of 1994, Washington D.C., 1994.

12. Foreign Assistance Act of 1961, as amended, Legislation on Foreign relations through 1993, U.S. Government Printing Office, Washington, D.C., 1994.

13. Fulgham, David A., Big F-22 Budget Drives Search for Flaws, Aviation Week and Space technology, April 10, 1995.

14. Government Accounting Office (Smith, R.C.). Subcommittee on Acquisition and Technology Committee on the Armed Services United States Senate, Offset Requirements Associated with Military Exports, GAO/NSIAD-96-65. 1996.

15. Grasso, Valerie B., Defense Industry in Transition: Issues and Options for Congress, January 9, 1997.

16. Inman, B. R., and Burton, Daniel F. Jr., Technology and U.S. National Security, in Allison Graham and Treverton, Gregory, F., eds., Rethinking America's Security, Beyond the Cold War to New World Order, W.W. Norton and Company, New York, New York, 1992.

17. Johnson, Joel L., Views of the Aerospace Industry Association on a U.S. Government Policy on Offsets Related to Military Sales, Aerospace Industry Association, Washington, D.C., January 1990.

18. Lumpe, Lora, The Offsets Monitoring Project—The Industrial, Employment and Security Costs of Arms Exports, FAS, October 1994.

19. Neuman, Stephanie G., Coproduction, Barter and Countertrade Offsets in the International Arms Market, ORBIS, Volume 29, Issue No. 1, Spring 1985.

20. O'Rear, Dennis, P., The Affect the Downsizing of the Department of Defense is Having on Small Business Subcontractors of the Top Ten Defense Contractors, Master's Thesis, Naval Postgraduate School, 1993.

21. Salomone, Dr. Michael, The reluctant Supplier: U.S. Decisionmaking for Arms Sales, Cambridge Mass., Hain Publishers, 1993.

22. Shaw, Carol E., Impact of National Culture in Foreign Military Sales Programs: A Case Study of the Swiss and Finnish F/A-18 Foreign Military Sales, Master's Thesis, Naval Postgraduate School, 1996.

23. Smith , Kim L., International Military Sales: Buyers Cash in on Offsets, Rotor and Wing Journal, Vol. 18, No. 10, October 1984.

24. Sumner, Benson, Shaping Arms Export Policy, Joint Forces Quarterly, 1994-1995.

25. Thompson, Mark, Going Up, Up in Arms, Time magazine on Line: America On Line, December 4, 1994.

26. U.S. Department Of Defense, FY 1994 Defense Budget Begins New Era, March 27, 1993.

27. Vartabedian, Ralph and Broder, John M., U.S. Weighs New Arms Sales Policy, Los Angeles Times, Los Angeles, CA, November 15, 1994.

28. Webb, Simon, NATO and 1992: Defense Acquisitions and Free Markets, The RAND Corporation, Santa Monica CA, 1989.

29. White House, White House Fact Sheet on Conventional Arms Transfer Policy, Office of the Press Secretary, February 17, 1995.

30. White House, White House Fact Sheet on Non-Proliferation and Export Policy, Arms Control Today, September 27, 1993.

31. Woodward, Michael, An Analysis of the Impact of Offsets Requirements on the U.S. and Defense Industry, Master's Thesis, Naval Postgraduate School, 1995.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center.....2
   8725 John J. Kingman Road, Suite 0944
   Ft. Belvoir, VA 22060-6218

2. Dudley Knox Library.....2
   Naval Postgraduate School
   411 Dyer Rd.
   Monterey, CA 93943-5101

3. Defense Logistics Studies Information Exchange.....1
   U.S. Army Logistics Management College
   Fort Lee, VA 23801-6043

4. Director, Training and Education.....1
   MCCDC, Code C46
   1019 Elliot Road
   Quantico, VA 22134-5027

5. Director, Marine Corps Research Center.....2
   MCCDC, Code C40RC
   2040 Broadway Street
   Quantico, VA 22134-5107

6. Director, Studies and Analysis Division.....1
   MCCDC, Code C45
   300 Russell Road
   Quantico, VA 22134-5130

7. Commandant of the Marine Corps (LBO).....2
   Headquarters, U.S. Marine Corps
   3303 Wilson Blvd.
   Arlington, VA 22201-3843

8. Marine Corps Representative.....1
   Naval Postgraduate School
   Code 037, Bldg. 234, HA-220
   Monterey, CA 93940

9. Marine Corps Tactical Systems Support Activity.....1
   Technical Advisory Branch
   Attn: Maj J.C. Cumminskey
   Box 555171
   Camp Pendleton, CA 92055-5080

10. Professor David V. Lamm, Code SM/LT.....3
Department of Systems Management
Naval Postgraduate School
Monterey, CA 93943-5100

11. Commander Jeffrey Cuskey, USN, Code SM/CK.....2
Naval Postgraduate School
Department of Systems Management
Monterey, CA 93943-5100

12. Professor Mark Nissen, Code SM/NI.....1
Naval Postgraduate School
Department of Systems Management
Monterey, CA 93943-5100

13. Capt Wayne M. Herbert, USMC.....2
319 Clamdigger Court
Swansboro, NC 28584